

WIRAB Monthly Meeting

September 2, 2021

WIRAB Staff



Outline



- **Introductions and Roll Call**
- **WECC Activities:**
 - WECC Update
 - WECC's Western Assessment of Resource Adequacy
 - WIRAB Advice: WECC's Technical Committee Structure Proposal
- **FERC Activities**
 - Reliability Technical Conference
- **Upcoming WIRAB Meetings**



WIRAB Update

September 2, 2021

Steve Goodwill
SVP R&S Oversight, GC and Secretary
Legal & Regulatory

Board of Directors Meeting

- September 8 and 9
- Annual Meeting of Members
 - Armando J. Perez Outstanding Contributor Award
 - Technical Session
 - The Impact of Energy Storage on System Reliability
- Visit WECC.org for more information

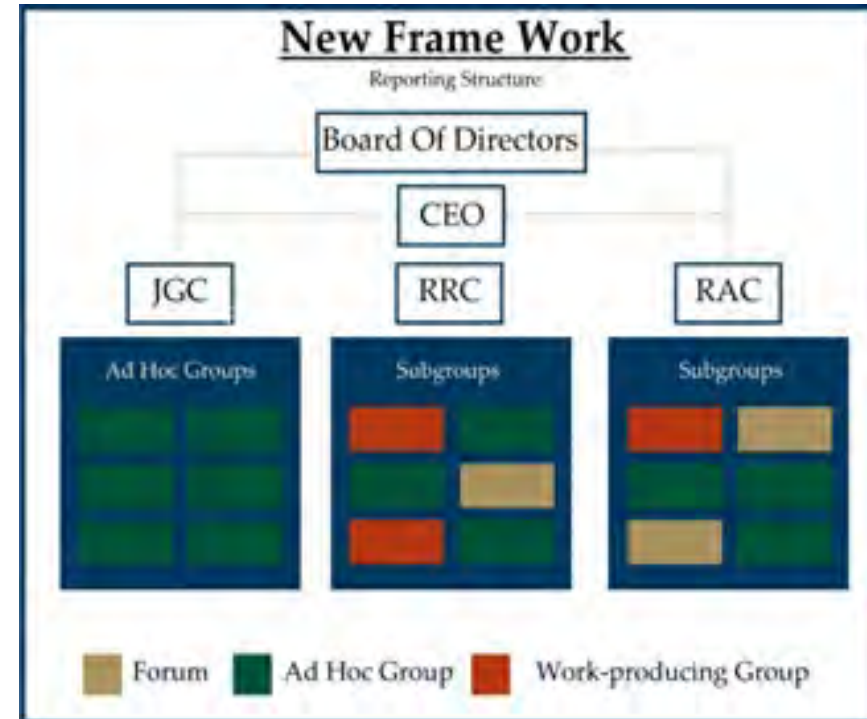
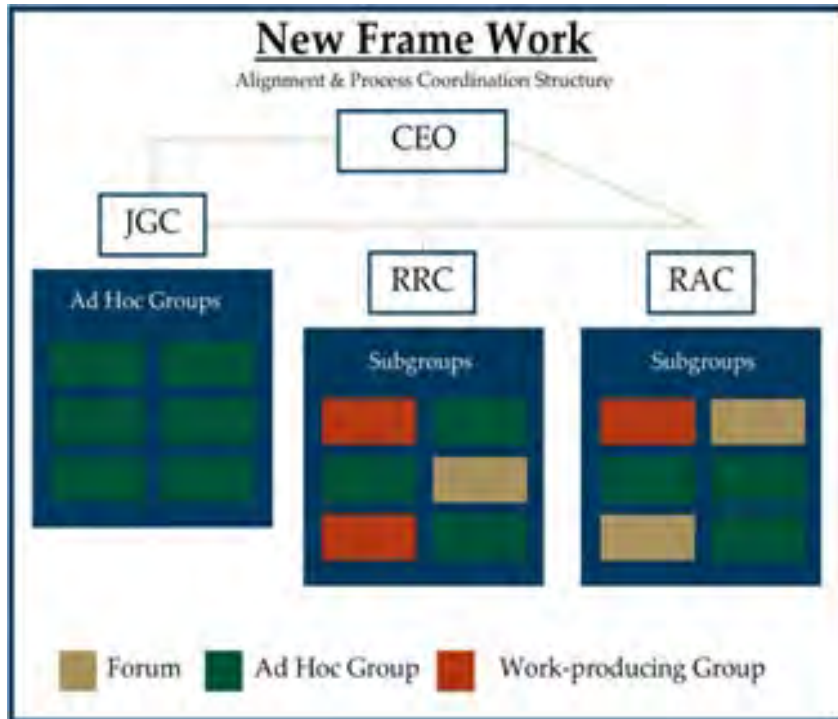


WECC Technical Committee Proposal

- Purpose: to increase stakeholder engagement in the work of WECC
“How can we best engage our stakeholders to support the analysis and outreach expected of WECC now and in the future?”
- Began in December 2019
- Intensive problem identification, analysis, discussion, and drafting involving wide cross section of stakeholders and public comment
- June 2021 — Final SETF report to Board of Directors
 - Board directed exec management to make changes; present proposal at September meeting for Board approval

The Proposal

- Create Reliability Risk Committee
- Reconstitute Joint Guidance Committee



Next Steps--Implementation

- Identify JGC members
- Revise JGC and RAC charters as necessary
- Draft RRC charter
- Identify changes impacting any in-process work product
- Begin process to identify and recategorize various “groups” based on committee classification described in the proposal
- Target February 1, 2022 for full implementation
 - First RRC and RAC meetings in February 2022

Elections for MAC Member

- WECC will hold elections for MAC Member Class Representative in conjunction with the WECC Annual Member Meeting on September 8, 2021
- Visit WECC.org for more information



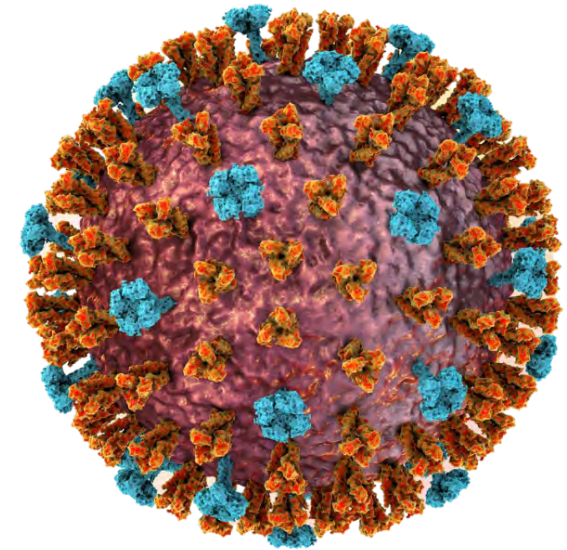
Align and The Secure Evidence Locker

- Align Release 2 launched on July 19
 - Release 2 included Technical Feasibility Exceptions, Periodic Data Submittals, Attestations, and Self-Certifications functionality in Align
 - As well as the use of the ERO Secure Evidence Locker to collect evidence provided by registered entities to support these activities



COVID-19 Update

- WECC will not hold in-person meetings through at least the **end of November**
- The WECC Salt Lake City office is open for a limited number of staff and on a voluntary basis





Contact:

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SVP R&S Oversight, GC and Secretary

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Dynamic Reserve Margins & Demand At Risk Hours

September 2, 2021

Victoria Ravenscroft

Sr. Policy and External Affairs Manager

Matthew Elkins

Manager – Resource Adequacy and
Performance Analysis

Western Assessment of Resource Adequacy

- Assessment of resource adequacy in the Western Interconnection
- Developed to address WECC stakeholder requests in response to NERC's LTRA
 - More granular analysis
 - Different assumptions
 - Analysis of more constrained scenarios



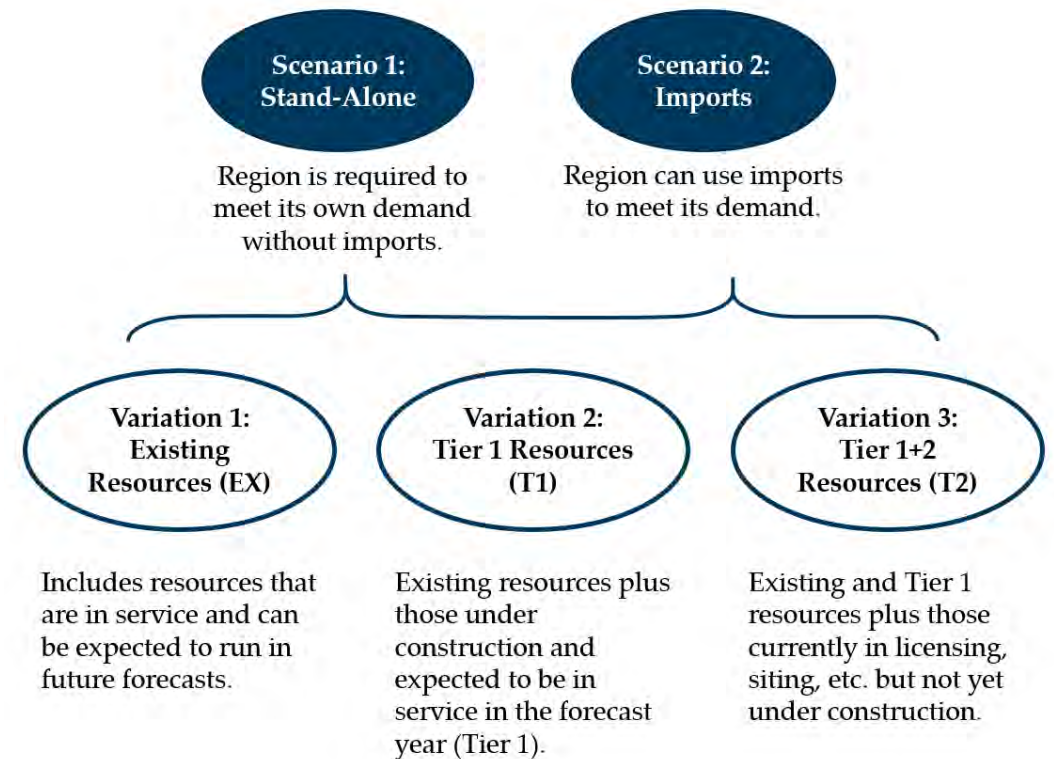
Western Assessment of Resource Adequacy

Assessment Regions

- NWPP Northwest (NWPP-NW)
- NWPP Northeast (NWPP-NE)
- NWPP Central (NWPP-C)
- California-Mexico (CAMX)
- Desert Southwest (DSW)

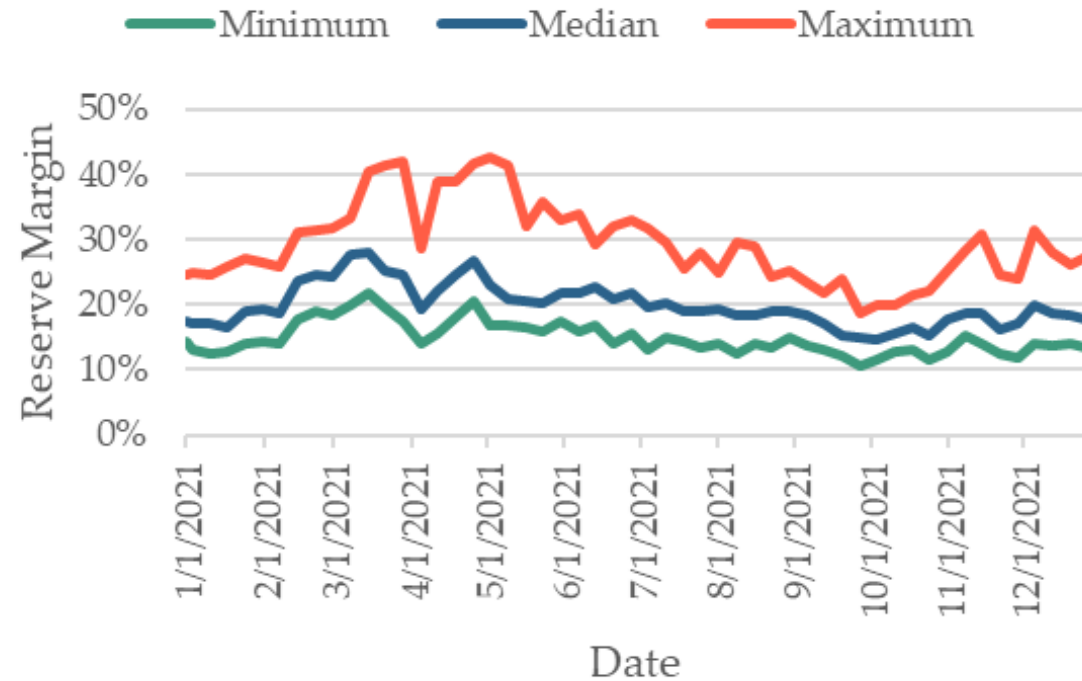


Scenarios



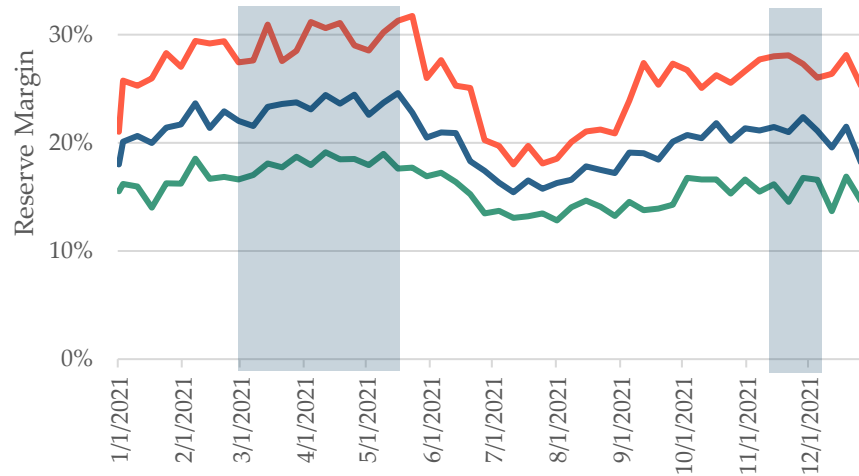
Takeaways and Recommendations

2021 NWPP-NW Planning Reserve Margin
Weekly Max, Min, and Median

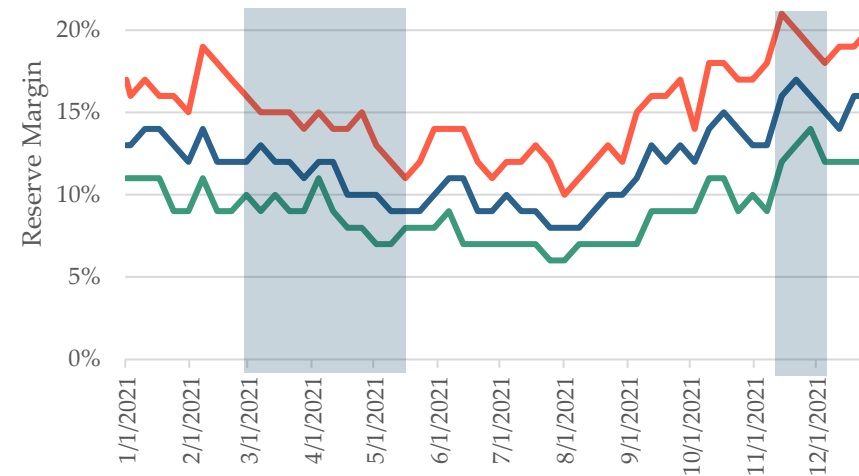


2021 Planning Reserve Margin Weekly Max, Min, and Median

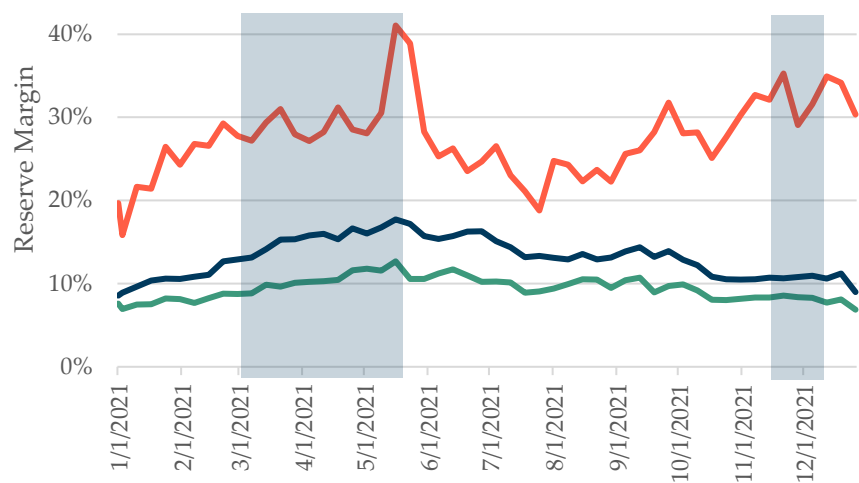
NWPP-C



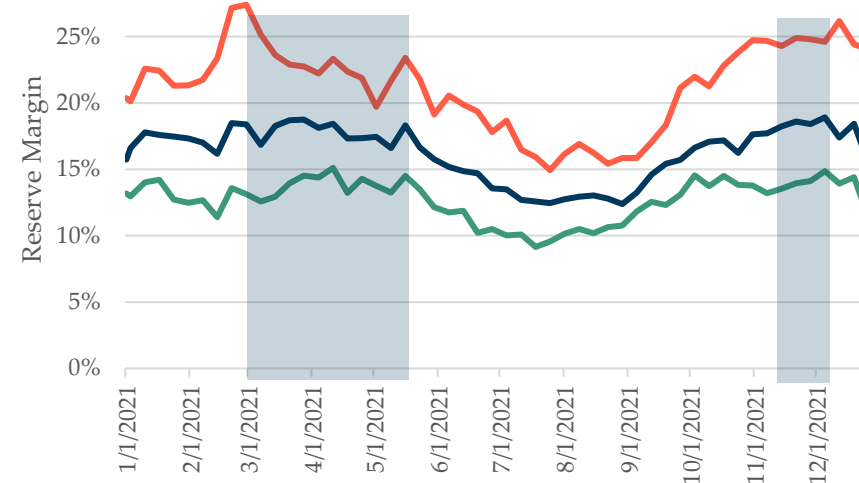
NWPP-NE



CAMX



DSW



Variability Takeaways

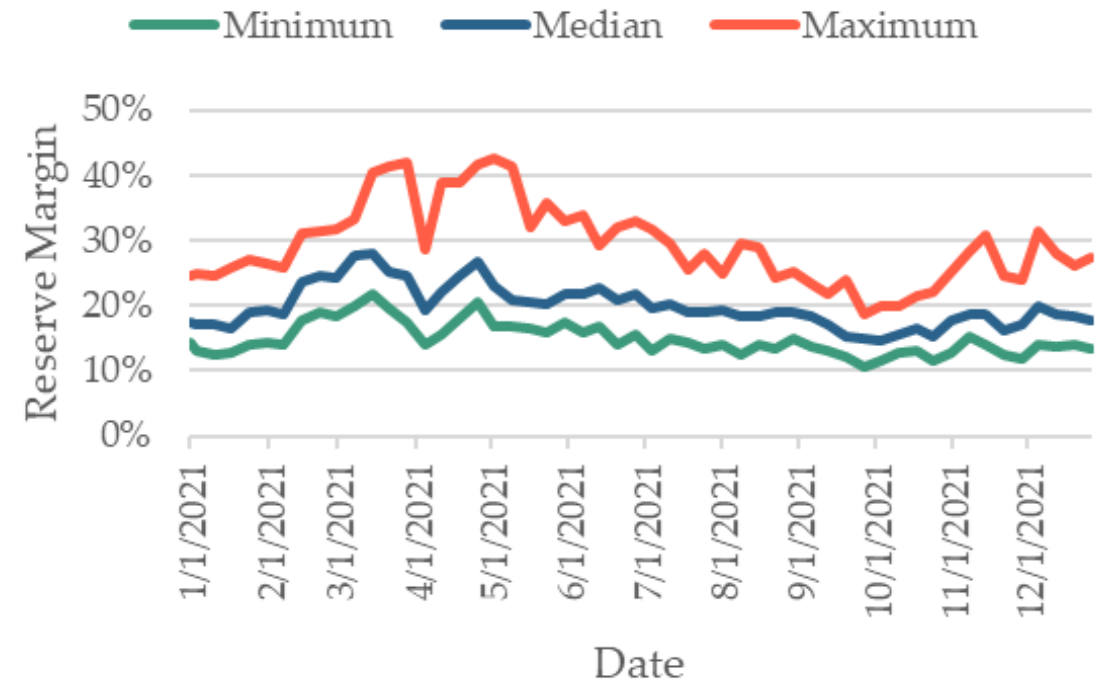
Variability

- Increasing variability on the system is driving a need for change in the way we analyze and plan for resource adequacy.

Recommendation

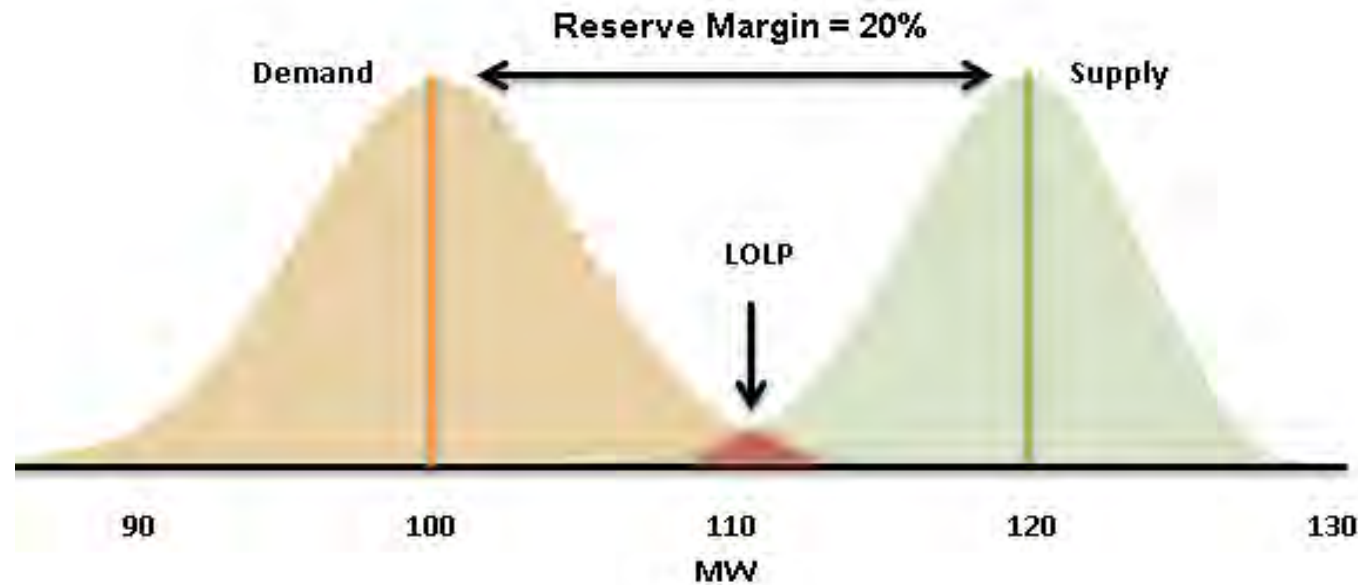
- Consider the availability and variability characteristics of capacity additions.
- Consider methods to account for variability at different times of the year in determining planning reserve margins.

2021 NWPP-NW Planning Reserve Margin
Weekly Max, Min, and Median



Planning Reserve Margins

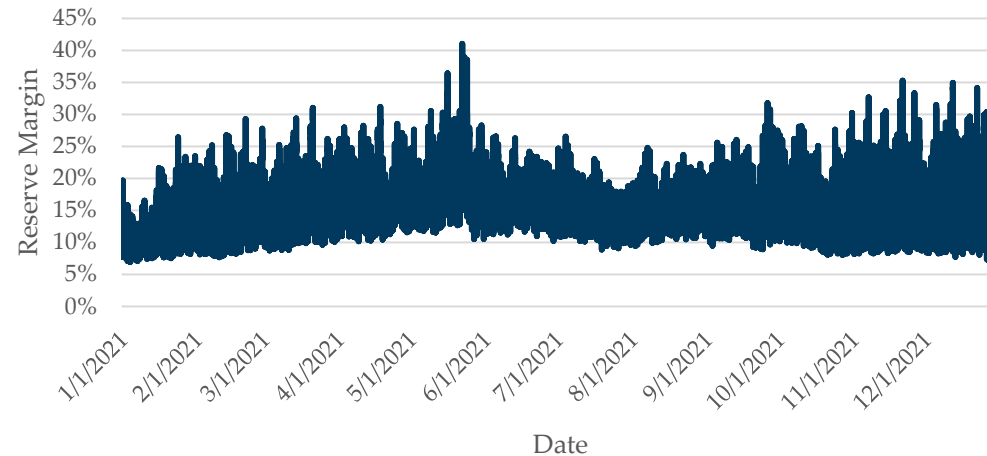
- For each BA, every hour is analyzed to determine what the appropriate margin (difference between expected levels of supply and demand) is needed to keep the LOLP (red shaded area below) at or below 0.03% probability



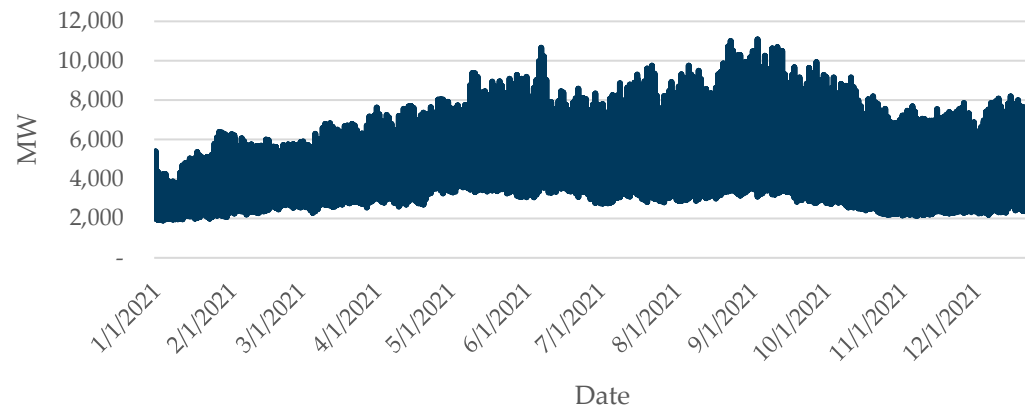
Hourly Reserve Margins

- The model calculates a reserve margin needed to maintain the threshold level of reliability for each hour.
- This is done, because not only does variability change seasonally, it also changes based on hours of the day.

Planning Reserve Margin Plot - Percent



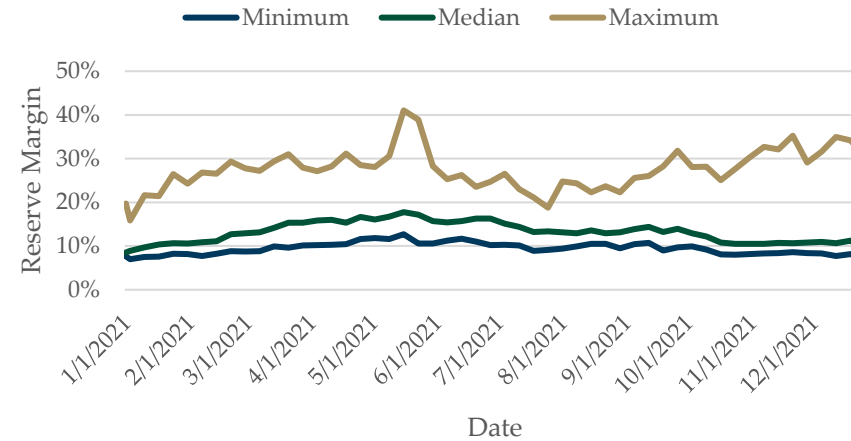
Planning Reserve Margin Plot - MW



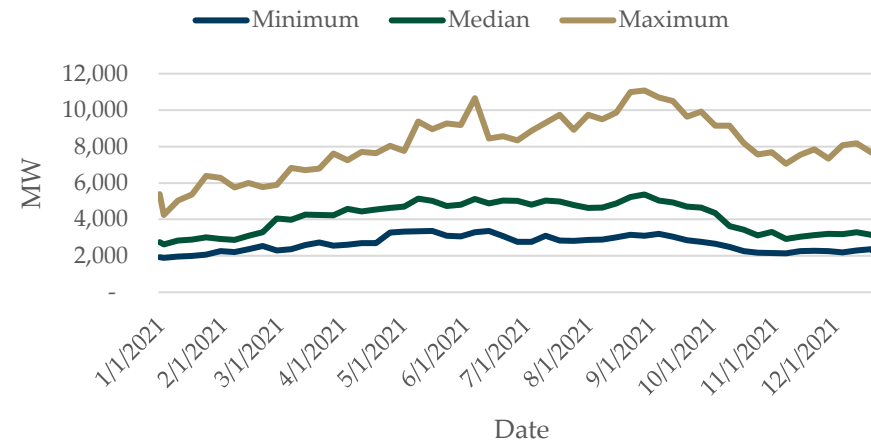
Reserve Margins

- Margins as percentages usually follow highest variability during a given period.
- Margins as MW incorporate seasonal patterns in demand.

Planning Reserve Margin Plot - Percent



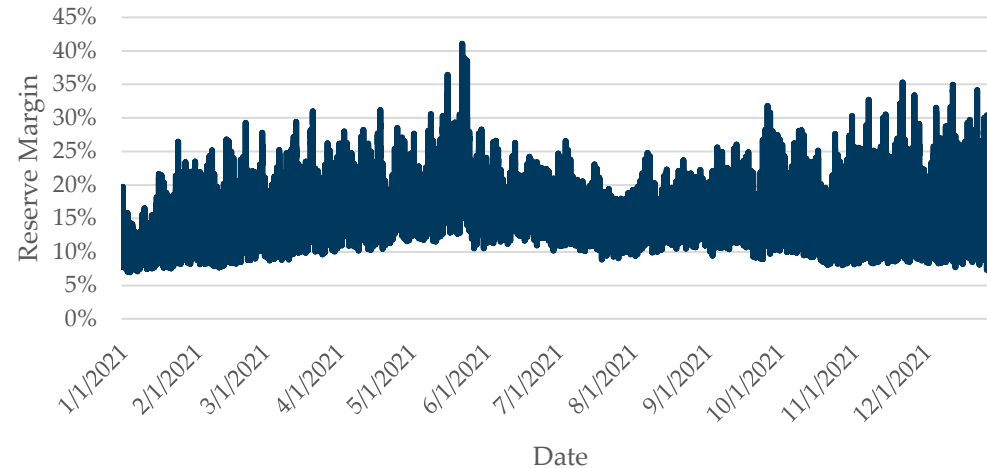
Planning Reserve Margin Plot - MW



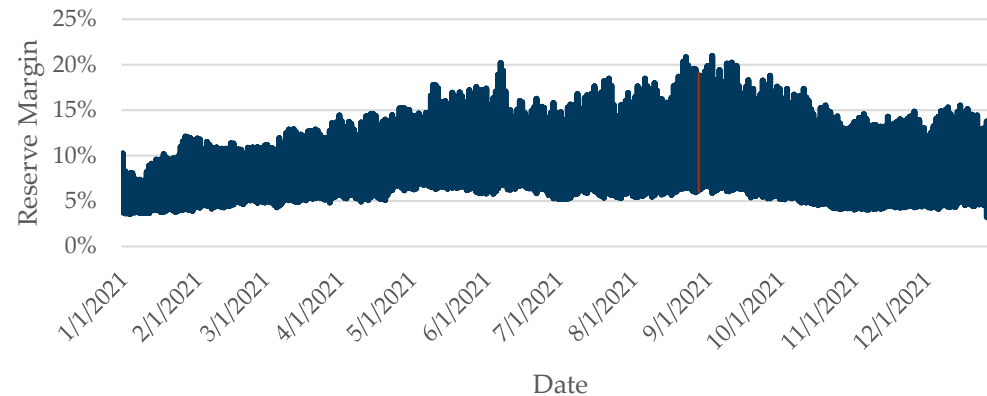
Reserve Margins Based on Peak Hour Demand

- The original calculation as shown in the WARA is based on each hour's demand.
- May be easier to understand if based on the peak hour demand for the period of time being analyzed.

Planning Reserve Margin Plot - Percent

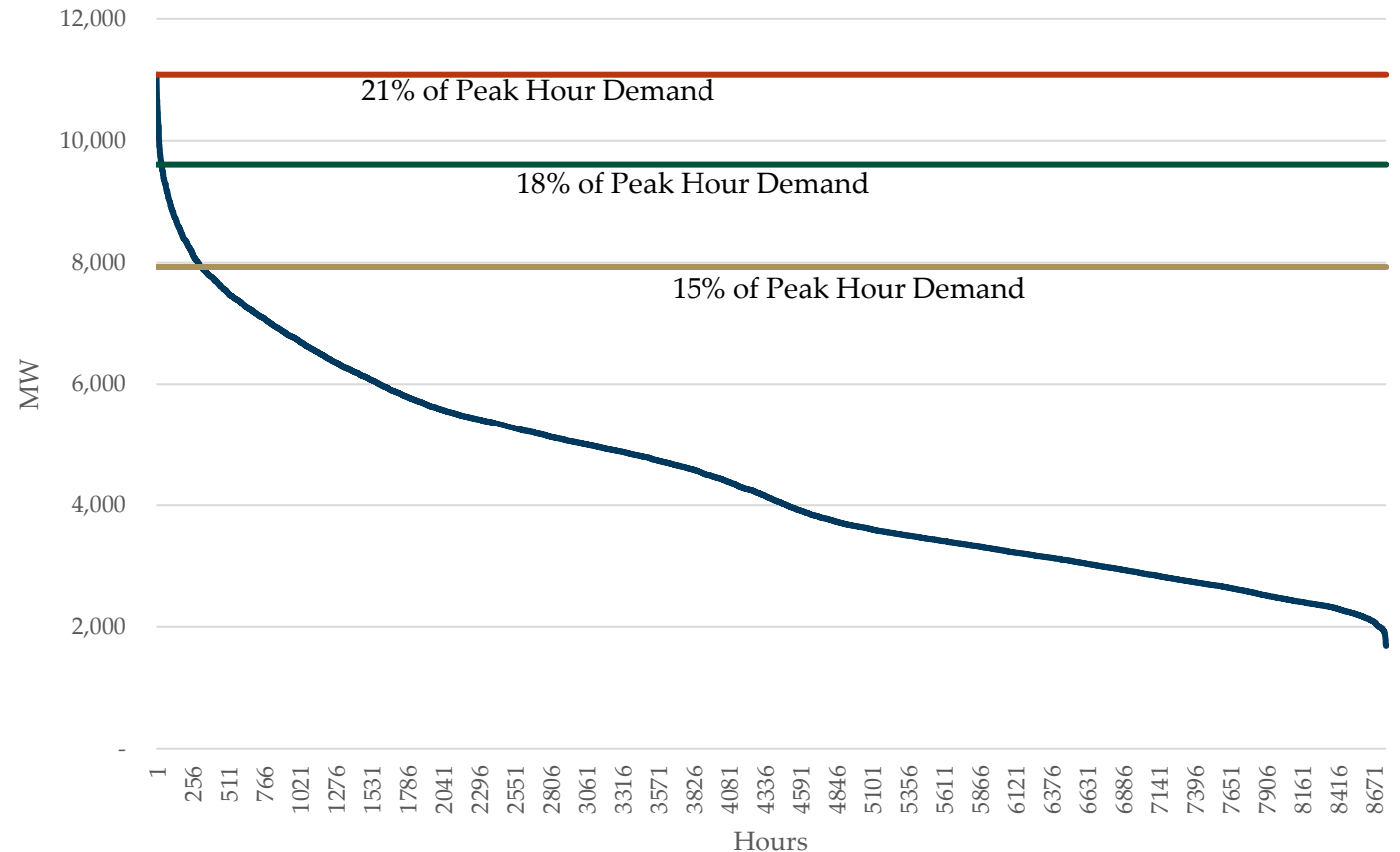


Planning Reserve Margin Plot - Percent



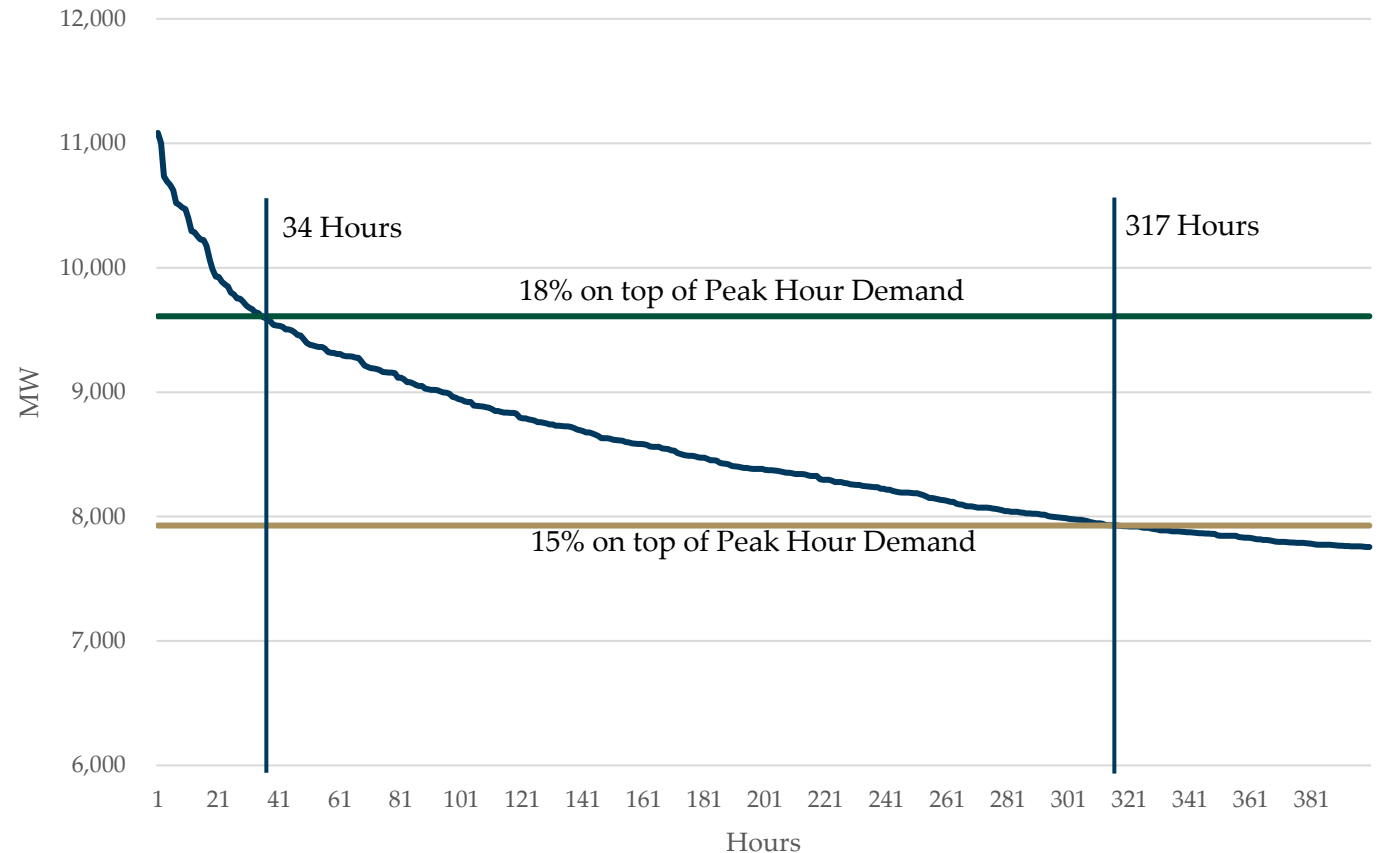
Highest to Lowest Reserve Margin

- Using the MW reserve margin plot it is important to order these from highest to lowest.
- Compare the MW requirement to the peak hour demand to determine what reserve margin would be needed to cover this year.



Focus on the Number of Hours Short

- Focus in on how many hours one should rely on imports.
- Focus in on how much one is willing to be short going into the operating year.

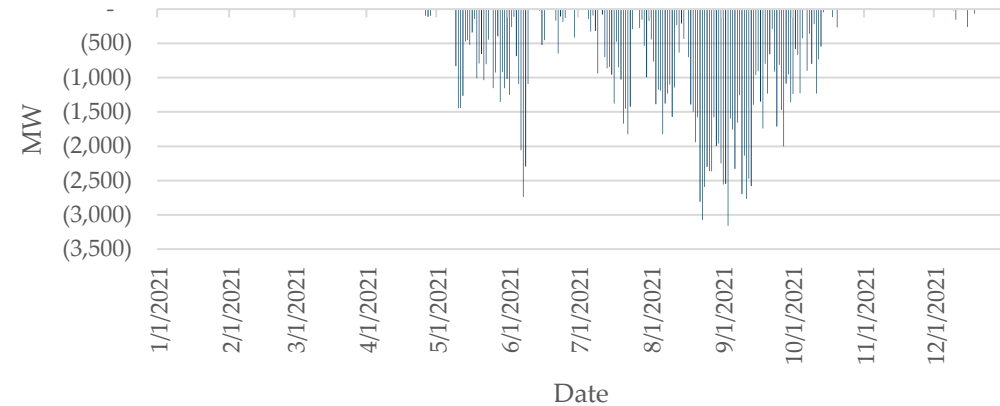


How Much and When?

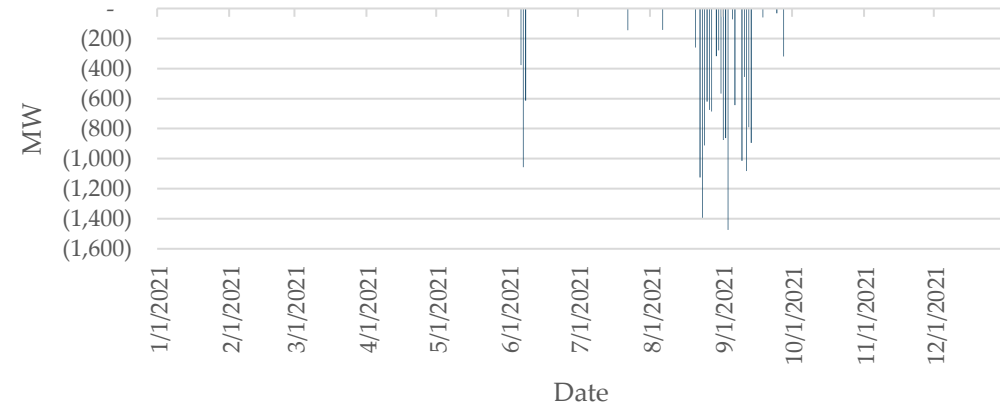
- 317 hours at 15%
- September 3, 2021 5:00 PM
 - ~3,150 MW

- 34 Hours at 18%
- September 3, 2021 5:00 PM
 - ~1,475 MW

Hours Short at 15% of Peak Demand



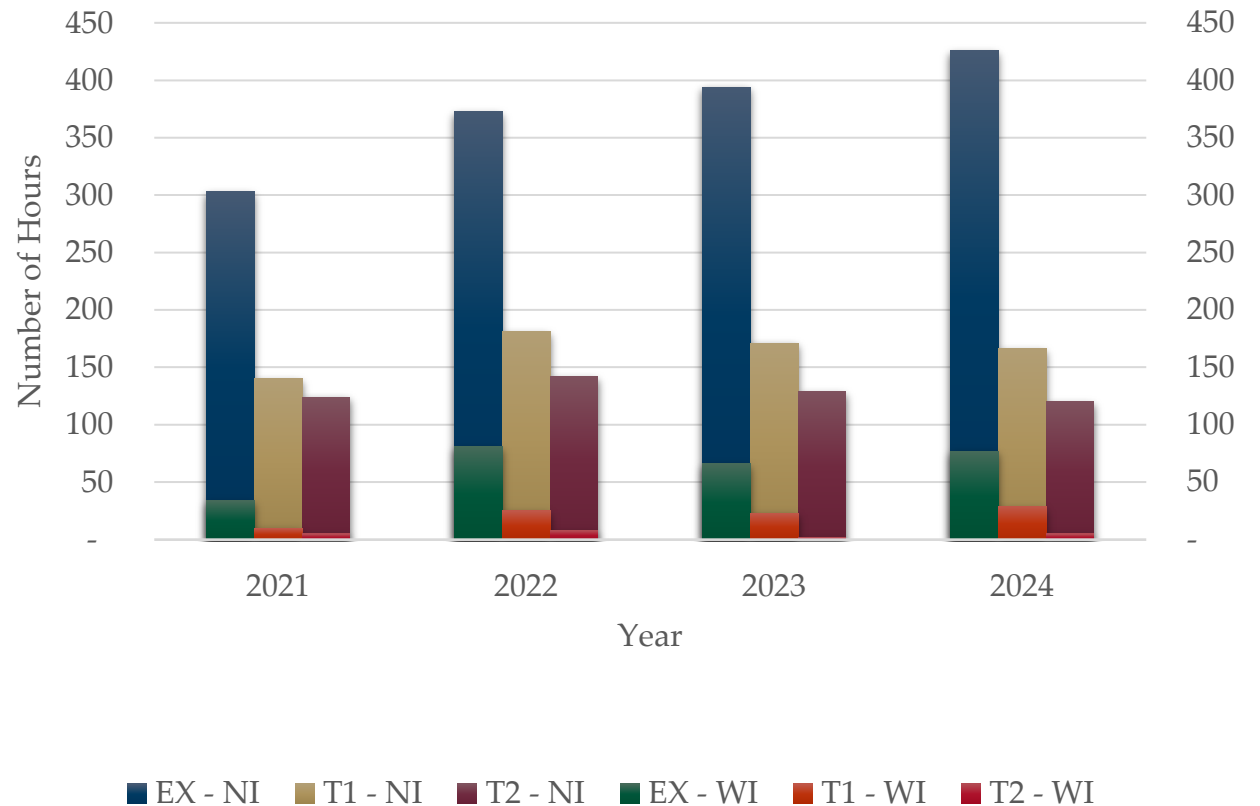
Hours Short at 18% of Peak Demand



Demand At Risk Hours

- Hours compared to their respective hourly threshold margin.
- With imports, almost all hours are solved.

Potential DAR Hours





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Matthew Elkins

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WECC Technical Committee Proposal



Key Elements of the Proposal:

- Joint Guidance Committee
- Role of the CEO and Reporting Structure
- Reliability Risk Committee (RRC)
- Implementation

WIRAB Advice: WIRAB recommends that the Board approve the Technical Committee Proposal and direct WECC staff to begin the implementation phase.

WECC Annual Meeting: Class 4 & 5 Breakout Session



Wednesday, September 8, 2021, 10:00 to 11:30 a.m. Mountain Time

Agenda Topics:

1. WECC's Role in Resource Adequacy in the West
2. 2021 ADS Attitudinal Assessment Findings: Update from WECC Staff on Existing Modeling Tools & Capabilities in Reliability Planning Teams
3. WECC Budget and Peak Reliability Funding Implications
4. Discussion with WECC CEO

WIRAB Participation at FERC's Reliability Technical Conference



- **Commissioner Kris Raper, WIRAB Chair, invited to speak on Maintaining Electric Reliability with Changing Resource Mix (Panel 4)**
 - Thursday, September 30, 2021 (9:00 AM - 5:00 PM ET)
- **Overview of remarks:**
 - Resource Adequacy in the West
 - Reliability Benefits from Regional Markets
 - Grid Stability Issues (Weak Grid)
 - Transmission Optimization and Expansion

NWPP Regional Resource Adequacy Program Governance Workshops



Workshop #4:

September 10, 2021

11:00 – 12:30 PM MT / 10:00 – 11:30 AM PT

Register: <https://www.westernenergyboard.org>

Upcoming Meetings



WIRAB Monthly Teleconference Meeting

First Thursday of every month at 11:00 AM MT

Next Meeting: October 7, 2021 at 11:00 AM MT

Fall 2021 Joint CREPC-WIRAB Meeting

October 18-20, 2021 in San Diego, CA

<https://westernenergyboard.org/>

Thank You!

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